

Frank G. Logan III
Appln. No.: 09/812,500
Amdt. dated March 15, 2005
Reply to Office action of January 21, 2005

IN THE CLAIMS:

Please amend the claims as follows:

Claims 1-16 (Cancelled)

17. (Currently amended) A machine programming and control system, comprising:

a machine;

a computer based controller coupled to the machine and being adapted to edit, debug, and generate a continuous multi-block flowchart and to control the operations of the machine in accordance with the flowchart; and

a display coupled to the computer based controller adapted to aid in editing and generating the flowchart, the display including a screen divided into a plurality of columns and rows, the display adapted to display the flowchart with a plurality of blocks, each of the plurality of blocks being disposed within a cell defined by the columns and rows, and

wherein the display is adapted to form a debugging window for displaying the blocks and having a tool bar for controlling program flow and the tool bar includes a toggle labels button and the computer based controller responds to actuation of the button for switching between default labels and alternate labels displayed for the blocks.

18. (Previously presented) The system, as set forth in claim 17, wherein the computer based controller automatically generates high level source code for the program from the flowchart.

Frank G. Logan III
Appln. No.: 09/812,500
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19. **(Previously presented)** The system, as set forth in claim 17, wherein the computer based controller automatically draws a connecting line between two associated ones of the blocks after editing.

20. **(Previously presented)** The system, as set forth in claim 17, wherein the display is adapted to display a split screen having two portions and selectively displaying blocks in at least one of the two portions.

Claim 21. **(Cancelled)**

Claim 22. **(Cancelled)**

23. **(Currently amended)** A machine programming and control system, comprising:

a machine;

a computer based controller coupled to the machine and being adapted to edit, debug, and generate a continuous multi-block flowchart and to control the operations of the machine in accordance with the flowchart; and

a display coupled to the computer based controller adapted to aid in editing and generating the flowchart, the display including a screen divided into a plurality of columns and rows, the display adapted to display the flowchart with a plurality of blocks, each of the plurality of blocks being disposed within a cell defined by the columns and rows, and

wherein the display is adapted to form a debugging window for displaying the blocks and having a tool bar for controlling program flow and

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[The system, as set forth in claim 21, wherein] the tool bar includes a Select Active Block button and the computer based controller responds to actuation of the button for displaying a currently active one of the blocks.]

24. (Currently amended) A machine programming and control system, comprising:

a machine;

a computer based controller coupled to the machine and being adapted to edit, debug, and generate a continuous multi-block flowchart and to control the operations of the machine in accordance with the flowchart; and

a display coupled to the computer based controller adapted to aid in editing and generating the flowchart, the display including a screen divided into a plurality of columns and rows, the display adapted to display the flowchart with a plurality of blocks, each of the plurality of blocks being disposed within a cell defined by the columns and rows, and

wherein the display is adapted to form a debugging window for displaying the blocks and having a tool bar for controlling program flow and

[[The system, as set forth in claim 21, wherein]] the tool bar includes an Insert/Remove breakpoint button and the computer based controller responds to actuation of the button for displaying a currently active one of the blocks in a predetermined color and stopping execution of a program before executing the currently active block.

Frank G. Logan III
Appln. No.: 09/812,500
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25. **(Previously presented)** The system, as set forth in claim 24, wherein when the program reaches one of the blocks having a breakpoint, the computer based controller responds by changing the predetermined color to another predetermined color.

26. **(Previously presented)** The system, as set forth in claim 17, wherein the computer based controller includes means for adding a break point associated with a flowchart block and wherein the computer based controller being adapted to stop at the break point during a debugging mode.

27. **(Currently amended)** A machine programming and control system,
comprising:

a machine;

a computer based controller coupled to the machine and being adapted to edit, debug, and generate a continuous multi-block flowchart and to control the operations of the machine in accordance with the flowchart; and

a display coupled to the computer based controller adapted to aid in editing and generating the flowchart, the display including a screen divided into a plurality of columns and rows, the display adapted to display the flowchart with a plurality of blocks, each of the plurality of blocks being disposed within a cell defined by the columns and rows, and

wherein the display is adapted to display a split screen having two portions and selectively displaying blocks in at least one of the two portions and

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~~[[The system, as set forth in claim 20, wherein]] the computer based controller includes means for selectively displaying a second set of blocks in another of the portions.]]~~

28. **(Currently amended)** A machine programming and control system, comprising:

a machine;

a computer based controller coupled to the machine and being adapted to edit, debug, and generate a continuous multi-block flowchart and to control the operations of the machine in accordance with the flowchart; and

a display coupled to the computer based controller adapted to aid in editing and generating the flowchart, the display including a screen divided into a plurality of columns and rows, the display adapted to display the flowchart with a plurality of blocks, each of the plurality of blocks being disposed within a cell defined by the columns and rows, and

wherein the display is adapted to display a split screen having two portions and selectively displaying blocks in at least one of the two portions and

~~[[The system, as set forth in claim 20, wherein]]~~ the computer based controller includes means for selectively displaying a list of source code associated with the first of the blocks in another of the portions.

Frank G. Logan III
Appln. No.: 09/812,500
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29. **(Currently amended)** A machine programming and control system,
comprising:
a machine;
a computer based controller coupled to the machine and being adapted to
edit, debug, and generate a continuous multi-block flowchart and to control the operations of
the machine in accordance with the flowchart; and
a display coupled to the computer based controller adapted to aid in editing
and generating the flowchart, the display including a screen divided into a plurality of
columns and rows, the display adapted to display the flowchart with a plurality of blocks,
each of the plurality of blocks being disposed within a cell defined by the columns and
rows, and
wherein the display is adapted to display a split screen having two portions
and selectively displaying blocks in at least one of the two portions and
[[~~The system, as set forth in claim 20, wherein~~]] the computer based
controller includes means for selectively displaying one of a second set of blocks and a
list of source code associated with the first of the blocks in another of the portions.

30. **(Previously presented)** The system, as set forth in claim 17, wherein
a width of each column and a height of each row is determined in accordance with a size
and spacing of the blocks.

Claim 31. **(Canceled)**

Claim 32. **(Canceled)**

Claims 33. **(Canceled)**

Frank G. Logan III
Appln. No.: 09/812,500
Amdt. dated March 15, 2005
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Claim 34. **(Canceled)**

Claim 35. **(Canceled)**

Claim 36. **(Canceled)**